

Amendment and Response under 37 C.F.R. 1.116

Applicant: Thane M. Larson et al.

Serial No.: 09/924,024

Filed: August 7, 2001

Docket No.: 10012574-1

Title: SYSTEM AND METHOD FOR POWER MANAGEMENT IN A SERVER SYSTEM**REMARKS**

The following remarks are made in response to the Final Office Action mailed January 14, 2005. In that Office Action, the Examiner rejected claim 8 under 35 U.S.C. §112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which Applicant regards as the invention. The Examiner also rejected claims 1, 7-9, and 14 under 35 U.S.C. §103(a) as being unpatentable over Ben-Meir et al., U.S. Patent No. 5,652,893 ("Ben-Meir") in view of Pignolet, U.S. Patent No. 6,023,148 ("Pignolet"), and Doustou II et al., U.S. Patent No. 6,392,872 ("Doustou"). Claims 2-6, 10-13, and 15-19 were rejected under 35 U.S.C. §103(a) as being unpatentable over Ben-Meir in view of Pignolet and Doustou as applied to claims 1, 7-9, and 14, and further in view of De Nicolo, U.S. Patent No. 6,134,666 ("De Nicolo").

With this Response, claim 8 has been amended. Applicant respectfully traverses the Examiner's rejection of claims 1-19 under 35 U.S.C. §103(a). Claims 1-19 remain pending in the application and are presented for reconsideration and allowance.

35 U.S.C. §112 Rejections

The Examiner rejected claim 8 under 35 U.S.C. §112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which Applicant regards as the invention. The Examiner stated that "Claim 8 recites 'the mass storage device' which should be 'the at least one mass storage device' in order to agree in number with claim 1. With this Amendment, Applicant has amended claim 8 to recite "wherein the at least one mass storage device comprises at least one hard disk card, and wherein the plurality of subsystems include at least one fan." Applicant respectfully requests entry of the amendment to claim 8, and requests removal of the rejection of claim 8 under 35 U.S.C. §112, second paragraph.

35 U.S.C. §103 Rejections

The Examiner rejected claims 1, 7-9, and 14 under 35 U.S.C. §103(a) as being unpatentable over Ben-Meir et al., U.S. Patent No. 5,652,893 ("Ben-Meir") in view of Pignolet, U.S. Patent No. 6,023,148 ("Pignolet"), and Doustou II et al., U.S. Patent No.

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6,392,872 ("Doustou"). Independent claim 1 is directed to a "server system" and recites "a plurality of subsystems **each including an associated memory** for storing power usage information, the plurality of subsystems including at least one host processor card and at least one mass storage device". (emphasis added). Thus, claim 1 recites that the at least one host processor card and the at least one mass storage device each include an associated memory for storing power usage information. The Examiner has acknowledged that "B-M [Ben-Meir] in view of Pignolet lack specific mention of the subassemblies containing at least one host processor card, at least one hard disk card, and at least one fan card." (Office Action mailed 6/30/04 at para. no. 6, page 6). The Examiner stated that "Doustou, in the same art of computer and server structure, shows it is old and well known to use processor and disc modules, as well as fan packs in servers (i.e. column 1, lines 42-52). Note for example the disc module 139, processor modules 165 and fan modules 47." (Final Office Action at para. no. 4, page 9). However, there is no teaching or suggestion in Doustou that disc module 139, processor modules 165, or fan modules 47 include an associated memory for storing power usage information. Thus, none of the cited prior art references teaches or suggests "a plurality of subsystems each including an associated memory for storing power usage information, the plurality of subsystems including at least one host processor card and at least one mass storage device", as recited in independent claim 1.

There is also no suggestion to combine Ben-Meir, Pignolet, and Doustou in a manner that would produce the claimed invention. Ben-Meir discloses a local area network switching hub or concentrator. (See, e.g., Ben-Meir at Title, Abstract, Field of the Invention, and Background of the Invention). Ben-Meir clearly distinguishes between a server and a switching hub (see, e.g., Ben-Meir at col. 1, lines 10-17), and includes no teaching or suggestion that any of the techniques disclosed therein for the switching hub could or should be applied to a server, such as the server disclosed in Pignolet or the server disclosed in Doustou. Pignolet discloses a data server (see, e.g., Pignolet at Abstract), and includes no teaching or suggestion that any of the techniques disclosed therein for a data server could or should be applied to a switching hub, such as the switching hub disclosed in Ben-Meir. Doustou discloses a network server (see, e.g., Doustou at col. 1, lines 4-6), and includes no teaching or suggestion that any of the techniques disclosed therein for a network server could or should be applied to a switching hub, such as the switching hub disclosed in Ben-Meir.

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The proposed modification to Ben-Meir based on Pignolet and Doustou would also change the principle of operation of the switching hub disclosed in Ben-Meir. The MPEP states that "[i]f the proposed modification or combination of the prior art would change the principle of operation of the prior art invention being modified, then the teachings of the references are not sufficient to render the claims *prima facie* obvious. MPEP §2143.01, citing *In re Ratti*, 270 F.2d 810, 123 USPQ 349 (CCPA 1959). The MPEP also states that, in the *Ratti* case, "[t]he court reversed the rejection holding the 'suggested combination of references would require a substantial reconstruction and redesign of the elements shown in [the primary reference] as well as a change in the basic principle under which the [primary reference] construction was designed to operate.'" MPEP §2143.01, citing *In re Ratti*, 270 F.2d at 813, 123 USPQ at 352. The transformation of the switching hub disclosed in Ben-Meir into a server as proposed by the Examiner would require a substantial reconstruction of the switching hub, and would change the purpose and principle of operation of the switching hub. The proposed modified device would no longer operate to interconnect servers, but rather would be a server itself.

Even if the switching hub disclosed in Ben-Meir were somehow transformed into a server based on the teachings of Pignolet (despite no suggestion in either reference to modify a switching hub in this manner), and then this modified switching hub was modified again based on the teachings of Doustou to add the disc modules, processor modules, and fan modules disclosed in Doustou (despite no suggestion in either reference to modify a switching hub in this manner), this combination still does not meet the limitations of claim 1. There is no teaching or suggestion in the cited prior art that the disc module 139 and the processor module 165 of Doustou include an associated memory for storing power usage information. Ben-Meir, Pignolet, and Doustou, either alone or in combination, do not teach or suggest "a plurality of subsystems each including an associated memory for storing power usage information, the plurality of subsystems including at least one host processor card and at least one mass storage device", as recited in independent claim 1.

In view of the above, Ben-Meir, Pignolet, and Doustou, either alone or in combination do not teach or suggest each and every limitation of independent claim 1. The Applicant respectfully requests removal of the rejection of claim 1 under 35 U.S.C. § 103(a), and requests allowance of this claim. Since dependent claims 7 and 8 further limit patentably

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distinct claim 1, claims 7 and 8 are believed to be allowable over the cited references, and allowance of claims 7 and 8 is respectfully requested.

Independent claim 9 is directed to a method of monitoring power usage in a "server system", and recites "providing each of the plurality of subsystems with an associated memory" and "storing power usage information in the memories associated with the plurality of subsystems, the power usage information stored in each memory representing the power usage of the subsystem associated with the memory". Claim 9 further recites "the server system including a plurality of subsystems and a power supply for powering the plurality of subsystems, the plurality of subsystems including at least one host processor card and at least one mass storage device". Thus, claim 9 recites that the at least one host processor card and the at least one mass storage device are each provided with an associated memory that stores power usage information. As described above with respect to independent claim 1, Ben-Meir, Pignolet, and Doustou, either alone or in combination, do not teach or suggest "a plurality of subsystems each including an associated memory for storing power usage information, the plurality of subsystems including at least one host processor card and at least one mass storage device", as recited in independent claim 1. For the reasons set forth above with respect to claim 1, Ben-Meir, Pignolet, and Doustou also do not teach or suggest the above quoted recitations of independent claim 9. There is also no suggestion to combine Ben-Meir, Pignolet, and Doustou as described above with respect to claim 1.

In view of the above, Ben-Meir, Pignolet, and Doustou, either alone or in combination, do not teach or suggest each and every limitation of independent claim 9. Applicant respectfully requests removal of the rejection of claim 9 under 35 U.S.C. § 103(a), and requests allowance of this claim. Since dependent claim 14 further limits patentably distinct claim 9, claim 14 is believed to be allowable over the cited references, and allowance of claim 14 is respectfully requested.

The Examiner rejected claims 2-6, 10-13, and 15-19 under 35 U.S.C. §103(a) as being unpatentable over Ben-Meir in view of Pignolet and Doustou as applied to claims 1, 7-9, and 14, and further in view of De Nicolo, U.S. Patent No. 6,134,666 ("De Nicolo"). Claims 2-6 are dependent on independent claim 1. Claims 10-13 are dependent on independent claim 9. As described above with respect to independent claims 1 and 9, Ben-Meir, Pignolet, and

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Doustou, either alone or in combination, do not teach or suggest the above-quoted recitations of claims 1 and 9. De Nicolo also does not teach or suggest these recitations.

As described above with respect to claim 1, there is no suggestion to combine Ben-Meir, Pignolet, and Doustou. De Nicolo includes no teaching or suggestion regarding a server, and there is no teaching or suggestion in De Nicolo that any of the techniques therein could or should be applied to a server. There is no suggestion to combine De Nicolo with Ben-Meir, Pignolet, and Doustou.

In view of the above, since dependent claims 2-6 and 10-13 further limit patentably distinct claim 1 and claim 9, respectively, claims 2-6 and 10-13 are believed to be allowable over the cited references, and allowance of claims 2-6 and 10-13 is respectfully requested.

Independent claim 15 is directed to a "server system", and recites "a plurality of removable cards, each card including an associated memory for storing power usage information, the plurality of cards including at least one host processor card and at least one hard disk card". As described above with respect to independent claim 1, Ben-Meir, Pignolet, and Doustou, either alone or in combination, do not teach or suggest "a plurality of subsystems each including an associated memory for storing power usage information, the plurality of subsystems including at least one host processor card and at least one mass storage device", as recited in independent claim 1. For the reasons set forth above with respect to claim 1, Ben-Meir, Pignolet, and Doustou also do not teach or suggest the above quoted recitations of independent claim 15. De Nicolo also does not teach or suggest these recitations.

In view of the above, Ben-Meir, Pignolet, Doustou, and De Nicolo, either alone or in combination, do not teach or suggest each and every limitation of independent claim 15. Applicant respectfully requests removal of the rejection of claim 15 under 35 U.S.C. § 103(a), and requests allowance of this claim. Since dependent claims 16-19 further limit patentably distinct claim 15, claims 16-19 are believed to be allowable over the cited references, and allowance of claims 16-19 is respectfully requested.

Examiner's Response to Arguments

In the Response to Arguments section of the Office Action, the Examiner stated that "[t]he independent claims are devoid of any more defined server specific structure or

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functionality that would tend to limit the scope of competent prior art to that of servers and servers alone. In fact, the bulk of the independent claims deals with power supply and management of subsystems and cards, and thus any and all references that teach card/subsystem based power management are properly combinable, when it comes to these types of features.” (Office Action at para. no. 1, page 2). Applicant respectfully disagrees with these statements. Independent claim 1, for example, recites “at least one host processor card and at least one mass storage device”. These **structures** help define the claimed “server system” and clearly distinguish claim 1 from the switching hub disclosed in Ben-Meir. Ben-Meir discloses that the switching hub uses modules such as bridge or router modules (Ben-Meir at col. 6, lines 28-30), and there is no teaching or suggestion in Ben-Meir to use a host processor card or a mass storage device.

In addition, it is improper and contrary to established precedent to combine the teachings of two or more references simply because all of the references “teach card/subsystem based power management”, as the Examiner has stated. Rather, as Applicant pointed out in the previously filed Response, the Federal Circuit has stated that “there must be some suggestion, motivation, or teaching in the prior art that would have led a person of ordinary skill in the art to select the references **and combine them in the way that would produce the claimed invention.**” *Karsten Manufacturing Corp. v. Cleveland Golf Co.*, 58 U.S.P.Q.2d 1286, 1293 (CAFC 2001) (emphasis added). There is no suggestion in this case to combine Ben-Meir, Pignolet, and Doustou in a manner that would produce the claimed invention. There is no teaching or suggestion in the cited references to transform the switching hub disclosed in Ben-Meir into a server, such as that disclosed in Pignolet. There is no teaching or suggestion in the cited references to then modify the modified switching hub to add disc modules, processor modules, and fan modules, such as those disclosed in Doustou. There is no teaching or suggestion in the cited references to then modify the disc modules, processor modules, and fan modules in the completely transformed switching hub into managed modules, such as those disclosed in Ben-Meir.

The Examiner stated that:

Turning to the citation of *KARSTEN*, the Examiner has provided a teaching and motivation to combine, that being in the form of applying the benefits of the card based power management system of Ben-Meir to all card based computer system. **The Examiner feels that since both Ben-Meir and Pignolet are card based computer systems, then the teachings of one are**

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applicable to another, as Pignolet (column 1) mentions a backplane, modules plugged therein, (column 2) a provided power management system, and power management system 40 (columns 17 and 18) that can detect the presence of all system components in order to determine if there are enough converters 38 to power the server 10. (Office Action at para. no. 1, pages 3-4) (emphasis added).

The Examiner's **feeling** that multiple references can be combined in any arbitrary manner simply because the Examiner can come up with a generic term (card based computer systems) to represent the different types of disclosed systems is contrary to established precedent. There must be some teaching or suggestion in the prior art that would have led a person of ordinary skill to combine the references in a way that would produce the claimed invention. For example, in the cases of *In re Fine*, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988) and *In re Jones*, 958 F.2d 347, 21 USPQ2d 1941 (Fed. Cir. 1992), the Federal Circuit reversed the decision of the Board of Patent Appeals and Interferences sustaining an Examiner's obviousness rejection. In the *Fine* case, the Court stated that "[t]he Board points to nothing **in the cited references**, either alone or in combination, suggesting or teaching Fine's invention." *Fine*, 5 USPQ2d at 1599 (emphasis added). The Court further stated that "Because neither Warnick nor Eads [prior art references], alone or in combination, suggests the claimed invention, the Board erred in affirming the Examiner's conclusion that it would have been obvious to substitute the Warnick nitric oxide detector for the Eads sulfur dioxide detector in the Eads system." *Id.*

Similarly, in the *Jones* case, the Court stated:

We see no such suggestion in Zorayan, which is directed to shampoo additives, nor in Wideman, which teaches that the amine used to make the claimed compound is a byproduct of the production of morpholine. Nor does the broad disclosure of Richter fill the gap, for the reasons discussed above.

Conspicuously missing from this record is any evidence, other than the PTO's speculation (if it be called evidence) that one of ordinary skill in the herbicidal art would have been motivated to make the modifications of the prior art salts necessary to arrive at the claimed 2-(2'-aminoethoxy) ethanol salt. See *Grabiak*, 769 F.2d at 731-32, 226 USPQ at 872 ("[I]n the case before us **there must be adequate support in the prior art** for the [prior art] ester/ [claimed] thioester change in structure, in order to complete the PTO's *prima facie* case and shift the burden of going forward to the applicant."): *In re Lalu*, 747 F.2d 703, 705, 223 USPQ 1257, 1258 (Fed. Cir. 1984) ("**The prior art must provide one of ordinary skill in the art the motivation** to make the proposed molecular modifications needed to arrive at the claimed compound.>").

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Jones, 21 USPQ2d at 1944 (emphasis added).

Thus, in both of these cases, the Federal Circuit found that there was no suggestion to combine found in the references themselves, and the Court reversed the Board's decision. Likewise, in the present case, the Examiner has pointed to nothing in the references that suggests the combination. The Examiner has provided no citation to any disclosure in Ben-Meir, for example, that teaches or suggests that the power management system disclosed therein is applicable "to all card based computer systems."

The Examiner stated that:

Applicants are of the opinion that the teachings of a hub are not applicable to a server and vice-versa. This type of reasoning is flawed, as the underlying teachings of each reference need to be evaluated for any commonality and desirability of combination. The Examiner clearly pointed out in the record that Ben-Meir is a card based power managed hub and that the difference between what is claimed and Ben-Meir is a matter of terminology, as for example, claim 1 requires a server system with a plurality of subsystems and a power supply and a server management card. The Examiner clearly admitted that it was this terminology (server specific) that was missing from Ben-Meir, and then used the Pignolet reference of a card based, power managed server to fill in the gaps. Thus, at a very top level, Ben-Meir and Pignolet differ as the former is a hub and the latter is a server. **Thus, the question for proper combinability to be answered is: why would one combine the two? Applicants urge that since one is a hub and the other is a server, then the two cannot be combined.** (Office Action at para. no. 1, page 4) (emphasis added).

Applicant never opined "that the teachings of a hub are not applicable to a server and vice-versa", nor did Applicant "urge that since one is a hub and the other is a server, then the two cannot be combined." Rather, in the previously filed Response, Applicant stated that:

Ben-Meir clearly distinguishes between a server and a switching hub (see, e.g., Ben-Meir at col. 1, lines 10-17), and includes no teaching or suggestion that any of the techniques disclosed therein for the switching hub could or should be applied to a server, such as the server disclosed in Pignolet. Pignolet discloses a data server (see, e.g., Pignolet at Abstract), and includes no teaching or suggestion that any of the techniques disclosed therein for a data server could or should be applied to a switching hub, such as the switching hub disclosed in Ben-Meir. (Response mailed 9/30/04 at page 7).

Thus, Applicant's remarks addressed the specific prior art references cited by the Examiner and the lack of teaching or suggestion therein, and Applicant never made a blanket

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statement that a reference that discloses a hub could never by combined with a reference that discloses a server.

Applicant also respectfully disagrees with the Examiner's statement that "the question for proper combinability to be answered is: why would one combine the two?". Applicant respectfully submits that the proper question to be answered is whether there is a teaching or suggestion in the cited prior art that would have led a person of ordinary skill in the art to combine the references in a way that would produce the claimed invention. As Applicant's have pointed out above, the Examiner has not identified any such teaching or suggestion, and has relied instead on a generic characterization of the references as providing a basis to combine any arbitrary disclosure in the references in any arbitrary manner.

In the Response to Arguments section of the Office Action, the Examiner stated with respect to claim 9 that "the point is raised if each and every card would have the associated memory. The answer is yes, and found in Ben-Meir in the desirable to operate the device within a given power budget, and thus each managed module has a memory providing power requirements (i.e. column 4, lines 13-25)." (Office Action at para. no. 1, page 5). Actually, the answer to the Examiner's question of whether each and every card would have an associated memory is NO, according to Ben-Meir. The switching hub disclosed in Ben-Meir includes managed modules 10 and 30, which include a non-volatile memory device, and unmanaged modules 8 and 12, which do NOT include a non-volatile memory device. (See, e.g., Ben-Meir at col. 6, lines 9-46). Thus, not every module in the switching hub of Ben-Meir includes a non-volatile memory device.

The Examiner also stated in the Response to Arguments section that "[c]learly the use of managed modules allows for better power management per the criteria spanning columns 4 and 5, and thus suggests the placing of a memory on other cards/modules like fans and disks and processors so that the power management is most effective." (Office Action at para. no. 1, page 5). Applicant respectfully disagrees. Ben-Meir does not suggest placing a memory on other cards/modules like fans and disks and processors. Ben-Meir does not even mention such other cards/modules as fans, disks, and processors. Ben-Meir explicitly discloses that some of the modules include a non-volatile memory device, and some do not. (See, e.g., Ben-Meir at col. 6, lines 9-46). The Examiner's implication that all of the modules in Ben-Meir include a non-volatile memory device, and that any and all modules that might be added

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to the switching hub disclosed in Ben-Meir would also include a non-volatile memory device, is inconsistent with the express teachings of Ben-Meir. The Examiner is impermissibly using hindsight to attempt to modify the prior art references based on the teachings of the present application.

CONCLUSION

In view of the above, Applicant respectfully submits that pending claims 1-19 are in form for allowance and are not taught or suggested by the cited references. Therefore, reconsideration and withdrawal of the rejections and allowance of claims 1-19 is respectfully requested.

No fees are required under 37 C.F.R. 1.16(b)(c). However, if such fees are required, the Patent Office is hereby authorized to charge Deposit Account No. 08-2025.

The Examiner is invited to contact the Applicant's representative at the below-listed telephone numbers to facilitate prosecution of this application.

Any inquiry regarding this Amendment and Response should be directed to either David A. Plettner at Telephone No. (408) 447-3013, Facsimile No. (408) 447-0854 or Jeff A. Holmen at Telephone No. (612) 573-0178, Facsimile No. (612) 573-2005. In addition, all correspondence should continue to be directed to the following address:

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Respectfully submitted,

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CERTIFICATE UNDER 37 C.F.R. 1.8:

The undersigned hereby certifies that this paper or papers, as described herein, are being transmitted via telefacsimile to Examiner Fleming, Group Art Unit 2182, at Fax No. (703) 872-9306 on this 14th day of January, 2005.

By Jeff A. Holmen
Name: Jeff A. Holmen